

REMARKS

In the attached replacement sheets, Claim 1 has been amended to read as follows:

1. A method of preparing a specimen for microanalysis, the method comprising:
 - (a) embedding the specimen within an electrically conductive polymer matrix to yield an embedded specimen; and
 - (b) forming regions on the embedded specimen into shapes suitable for microanalysis by an atom probe.

In effect, the subject matter of Claim 2 as originally filed has been inserted into Claim 1. Claim 2 as originally filed has been canceled from the application and the remaining claims re-numbered accordingly. Thus, Claims 2-28 in the attached replacement sheets correspond with claims 3-29 of the claims as originally filed.

In the replacement sheets, Claims 8-10 and 22 (i.e., original Claims 9-11 and 23) have been amended in the same fashion as Claim 1 to indicate that the specimen is embedded within an “electrically conductive polymer matrix.”

Because original Claim 2 explicitly stated that the specimen is embedded within a “polymer matrix,” no new matter is introduced in the claims as amended herein.

Applicant respectfully submits that the rejection of original Claims 1, 13-15, 17, 18, 20-23, and 25-28 as lacking novelty in view of Kelly et al. has been rendered moot by the present amendment. Original Claim 2 was not made subject to this rejection. In the present amendment, the subject matter of original Claim 2 has been incorporated into Claim 1. All of the pending claims depend, either directly or indirectly, from Claim 1. Thus, Applicant submits that the novelty rejection in view of Kelly et al. is no longer tenable.

Likewise, Applicant respectfully submits that the rejection of original Claims 1, 8, 13-15, 17, 18, 20-23, and 25-28 as lacking an inventive step over Kelly et al. in view of van der Linden et al. has also been rendered moot by the present amendment. Original Claim 2 was not made subject to this inventiveness rejection. In the present amendment, the subject matter of original Claim 2 has been incorporated into Claim 1. All of the pending claims depend, either directly or indirectly, from Claim 1. Thus, Applicant submits that the inventiveness rejection over Kelly et al. in view of van der Linden is no longer tenable.

Applicant respectfully traverses the rejection of original Claims 1-7, 13-15, 17, 18, 20-23, and 25-28 as lacking an inventive step over Kelly et al. in view of Ban et al. because in Ban et al., “specimens” as required by the present claims were not embedded within an electrically conductive polymer matrix. Rather, in Ban et al., the polymer itself was the specimen. As a necessary consequence, no regions were formed on the embedded specimen because Ban et al. do not describe an embedded specimen in the first place.

In particular, note that the Ban et al. paper is directed entirely toward determining the polymer domain structure of TPE blends. In Ban et al. the polymer itself is the specimen that is being investigating. Ban et al. do not use the polymer as a matrix in which a different specimen is embedded. On this point, note that Claim 1 as amended (and original Claim 2) requires “embedding” the specimen within an “electrically conductive polymer matrix.” The combination of Kelly et al. and Ban et al. neither teaches nor suggest such an approach because Kelly does not disclose a polymer matrix, and Ban et al. do not either. Ban et al. are not using their polymer as the matrix, but as the specimen itself. Therefore, the combination of the two references does not impact the inventiveness of the present claims.

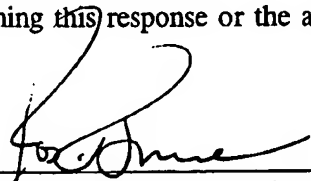
With regard to treating the polymer matrix with a metal, Applicant notes that Claim 3 in the attached replacement sheets requires “treating the polymer matrix to increase its conductivity.” Claim 5 depends from Claim 3 and requires treating the polymer matrix with osmium tetroxide or ruthenium tetroxide to increase its conductivity (as required by Claim 3, which is an intervening dependent claim). In contrast, in Ban et al. these two metallic compounds are not used to increase the conductivity of the polymer being studied, but as stains to increase the polymer domain contrast in TEM and SEM. See page 20 of Ban et al., left-hand column, last paragraph.

Lastly, the object in the present invention is not to detect different domains in the polymer matrix (which is the sole aim of the Ban et al. paper). The presently claimed invention is to prepare a specimen for microanalysis by embedding that specimen within an electrically conductive polymer matrix. In the present invention, the polymer itself is not the item of interest (as in Ban et al.); the polymer is simply the matrix. It is the specimen embedded within the matrix that is of interest in the present invention. Hence, Claim 1 also positively requires forming regions “on the embedded specimen” into shapes suitable for microanalysis by an atom probe. This final step of Claim 1 is nowhere taught or suggested by the combined references because Kelly et al. do not teach using a

polymer matrix and neither do Ban et al. Again, Ban et al. do not use any matrix at all; the polymer in Ban et al. is the entire specimen being analyzed.

For these reasons, Applicant respectfully submits that the rejection of original Claims 1-7, 13-15, 17, 18, 20-23, and 25-28 as lacking an inventive step over Kelly et al. in view of Ban et al. is untenable. Withdrawal of the rejection is respectfully requested.

Any questions or comments concerning this response or the above-referenced application should be directed to the undersigned.



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